Căpraru Sebastian Bogdan
University"Al.I.Cuza" of Iaşi Faculty of Economics and Business Administration Bd. Carol I, no. 22 Email: csb@uaic.ro Phone: +40-232-201610
Ihnatov Iulian Romeo
University"Al.I.Cuza" of Iaşi Faculty of Economics and Business Administration Bd. Carol I, no. 22 Email: iulian.ihnatov@uaic.ro Phone: +40-232-201569

Abstract: In this paper we intend to highlight the limits of ECB in managing the macroeconomic shocks in the Euro zone. We consider that in the last months the ECB monetary policy rate loses its effectiveness and, consequently, should be offset by other measures of economic and social policy. For demonstrating this conclusion we have analyzed inflation rate, GDP growth rate and output gap per country and per Euro zone as a whole.

Key words: inflation, Euro zone, European Central Bank, monetary policy, macroeconomic shock

The article's JEL code: E52, E58

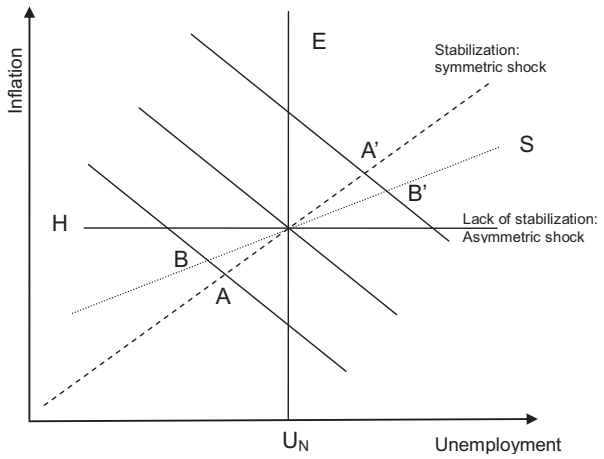
Introduction

In this paper we intend to highlight the limits of ECB in managing the macroeconomic shocks in the Euro zone. For this purpose we analyzed the main macroeconomic indicators that can be influenced by the monetary policy of ECB.
To highlight the differences between the Economic and Monetary Union countries we analyze two macroeconomic indicators (inflation rate and GDP growth rate) per country and per Euro zone as a whole. Also, the analysis highlights the position of economic cycle in the Euro zone based on the output gap calculated by OECD.

Theoretical approaches

Theory of optimal currency areas examines the opportunity of renouncing at the exchange rate as a monetary policy instrument and of adherence to a monetary union. In his 1961famous article, R. Mundell analyzes various adjustment mechanisms in a country (region) that is exposed to an asymmetric shock. Later, R. McKinnon, P. Kenen and other authors have focused on analysis of costs and benefits of joining the monetary union, including the survey of new policies and mechanisms for adjustment.
The Euro zone is likely to face asymmetric shocks, while the European Central Bank should respond through appropriate monetary policy. It is responsible for maintaining price stability and for the macroeconomic stabilization in the Euro zone as a whole.
In the case of a "pure" asymmetric demand shock (positive developments in a country are accompanied by negative developments of equal size in another country), aggregate inflation and unemployment at monetary union level remain unchanged. In this extreme situation the ECB cannot use any instrument to stabilize the economies of affected countries. The ECB's inaction will generate a higher inflation in the booming economy and higher unemployment in the economy in recession, compared with a situation in which the two countries enjoyed independent national monetary policy.
In the other extreme case, when a „pure" symmetric shock occurs, the demand in both economies evolves in the same direction. In this case, the ECB may use the instruments of stabilization as the unemployment (or inflation) is increasing in the Euro zone. Thus, from the perspective of the same country facing the same type of shock, ECB may adopt different policies, as these depend also on the other EMU countries economic situation.

A conclusion after analyzing these extreme cases is that the efficiency of the ECB's monetary stabilization instruments depends on the degree of shocks' symmetry or asymmetry. It should be noted that these extreme cases does not exist in reality, but there is a combination of symmetric and asymmetric socks in EMU. Consequently, the symmetric component of a shock can be stabilized by monetary instruments and the asymmetric one will be managed by other types of policies. Figure 1 decomposes a mixed real shock in the two components and illustrates the movement of Phillips-curve along the stability line. The unemployment rate will fluctuate between the corresponding points B and B', which is unacceptable from the perspective of an individual country. There could be better results in the case of independent national monetary policies (points A and A').



Source: De Grauwe ,P., Economics of Monetary Union, 6th Edition, Oxford University Press, 2005, p.196

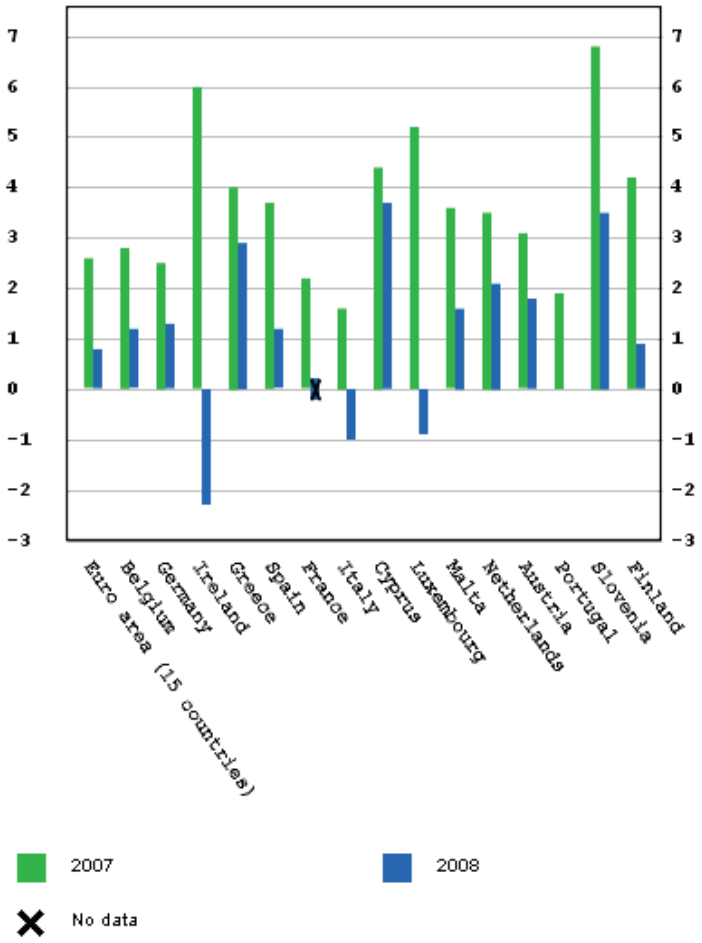
Figure 1: ECB Stabilization monetary policy

Therefore, the monetary union has a problem of insufficient stabilization, with no solution in the case of temporary asymmetric shocks. If the countries of the monetary union don't form an optimum currency area, the ECB will have a difficult mission and whether the optimum currency area criteria are met, the stabilization of employment and supply will be relatively easy.

Data analysis

We start the analysis of the asymmetric shocks extent in the Euro zone[297] by observing the GDP growth rates and inflation rates in the monetary union member countries.

297 Slovenia adopted euro on 01.01.2008 and Slovakia on 01.01.2009. We won't include the latter in the analysis.

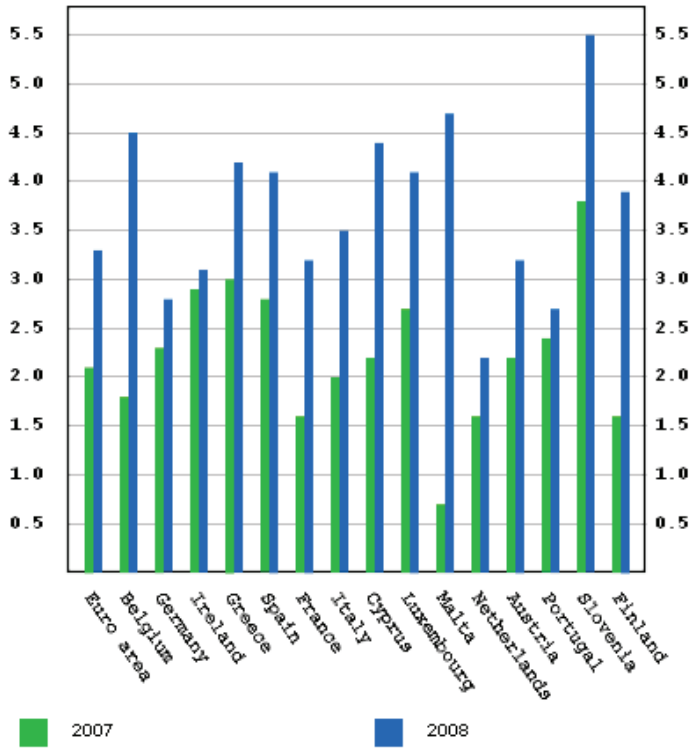


Source: Eurostat (http://ec.europa.eu/eurostat)

Figure 2: Real GDP growth rate (%) in 2007 and 2008

We note a very different evolution of the GDP growth rates in the Euro zone (Figure 2). Thus, growth rates were between 2 to 7% in 2007, while the Euro zone average was approximately 2.5%. For example, Ireland, Italy and Luxembourg faced a GDP decreasing, while in Cyprus and Slovenia GDP increased by more than 3%. In 2008, the growth rates reflected the international financial crisis. We note that countries such as Ireland, Italy and Malta had a GDP decrease, while the Euro zone as a whole had a GDP growth rate of less than 1%.

Thus, different (and sometimes negative) growth rates require the use of different economic policies. The ECB is unable to use monetary tools to support individual policies, since its policy is drawn for the whole Euro zone and not by the requirements of individual EMU countries.



Source: Eurostat (http://ec.europa.eu/eurostat)

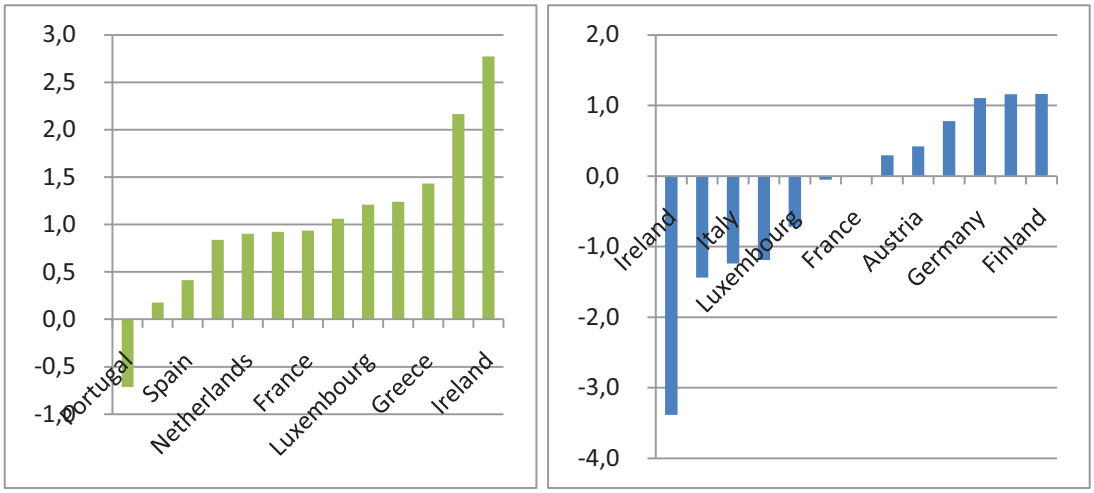
Figure 3: Inflation rate (%) in Euro zone in 2007 and 2008

Figure 3 reveals various developments in the Euro zone countries in terms of inflation rate (calculated on the base of harmonized index of consumer goods prices). In 2007, inflation in France, Netherlands and Malta was below the Euro zone average (about 2%), while Slovenia and Ireland have experienced inflation rates above average (between 3 and 4%). In 2008, the sharp rise of the energy prices and the international financial crisis generated global price increases. However, we note the impossibility of ECB monetary policy to adapt to the realities of the individual EMU member countries.

Differences between growth rates and inflation rates in the Euro zone countries may partly be due to permanent asymmetric shocks. In this case, under optimal currency area theory, the solution is changing long-term relative prices[298]. The ECB monetary policy has minimal possibilities of influencing the asymmetric component of these shocks, but it can only soften the difficulties of adjustment for achieving long term equilibrium.

The asymmetric component of shocks and the stabilization problem may be emphasized by analyzing the Figure 4. It shows the output gap, i.e. the spread between the real GDP and the potential long run GDP of a country. This indicator, calculated by OECD, measures the business *cycle position of a country*.

298 De Grauwe, P., Economics of Monetary Union, 6th Edition, Oxford Univ. Press, 2005, p.36



Source: OECD Economic Outlook 84 Database

Figure 4: Output gap in 2007 (left) and 2008 (right)

We can observe that a number of countries such as Portugal, Spain and Italy confronted with a slow-down of their economies in 2007, while others, like Greece, Finland and Ireland had booming economies. The Euro zone as a whole[299] recorded a growth rate over its long run potential (expansion phase of the economic cycle). In 2008, the Euro zone economy had a GDP growth rate below its long run potential. In the latter year, the Euro zone economies slowed down due to global financial and economic crisis.

Hence, the growth and inflation rates of the Euro zone countries had important relative variations from country to country. Considering the inflation rates and the output gaps, it results a different optimum monetary policy interest rate for each country. For instance, a country like Ireland or Italy with a slowed down economy would require a monetary policy interest rate that stimulates the recovery. On the other hand, a higher monetary policy rate would be useful for Slovenia, a country with a booming economy and a higher inflation rate.

Conclusions

The above analysis reveals that the inflation rate and the GDP growth rate had very different values for each Euro zone country compared to other countries and to the Euro zone as a whole. Additionally, the analysis shows that the position of the economic cycle of the Euro zone countries was different. These disparities magnified in 2008 as a result of increasing energy prices and of international financial crisis. Also, Balassa-Samuelson effect could have contributed to widening disparities in terms of inflation rates.

The reaction of the European Central Bank in 2007 and 2008 was a sharp decreasing of the monetary policy interest rates from a maximum of 4.25% in July 2008 to 1.25% in April 2009.

Given the evolution of inflation and GDP rates, if we were to apply the Taylor rule[300] for each EMU country, it would mean that the dispersion by countries of optimal monetary policy rates would increase. This observation could lead us to the conclusion that the ECB monetary policy rate loses its effectiveness and, consequently, should be offset by other measures of economic and social policy.

299 Excluding Cyprus, Malta and Slovenia, for which OECD hasn't published the output gaps and, respectively, Slovakia that adopted the euro at 01.01.2009.

300 Baldwin, R., Wyplosz, C., The Economics of European Integration, 2nd Edition, McGrawHill, 2006, p.393

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